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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,581	01/18/2002	Hiroshi Kurosawa	00862.022494	7091

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[REDACTED] EXAMINER

MATHEWS, ALAN A

ART UNIT	PAPER NUMBER
	2851

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)
	10/050,581	KUROSAWA, HIROSHI
	Examiner	Art Unit
	Alan A. Mathews	2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-32 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) 16,31 and 32 is/are allowed.
 6) Claim(s) 1-5,8,9,11,12,14,15,17-21,24,25,27,28 and 30 is/are rejected.
 7) Claim(s) 6,7,10,13,22,23,26 and 29 is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 18 January 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 8, 9, 11, 12, 14, 17-19, 24, 25, 27, 28, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Higashiki (U. S. Patent No. 6,262,792). Figure 2 and column 4, lines 59-67, and column 5, lines 1-16, disclose an exposure apparatus wherein a pattern on a master (reticle) 30 is transferred to a substrate 50. The controlled element is either the reticle stage 31 or the wafer stage 51 which are each moved. Column 6, lines 3-55, and column 7, lines 19-43, disclose measuring the deformation of reticle 30 and storing the correction values in the memory 72a. This correction information for the deformation of the reticle is the correction information prepared in correspondence with the master (reticle). The reticle stage 31 (controlled element) or the wafer stage 51 (controlled element) is moved toward the corrected target locus (corrected target position in the z direction). With respect to claims 2 and 18, the shape of the master is the warp of the reticle 30 (see figure 4). With respect to claims

Art Unit: 2851

3 and 19, the shape of the master would also be the shape of the pattern on the master since warping the master would also warp the pattern on the master.

3. Claims 1, 4, 5, 15, 17, 20, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Jain et al. (U. S. Patent No. 6,304,316). Jain et al. discloses in figure 1 and column 6, lines 43-60, transferring a pattern from a master (mask) 2 onto a substrate 1. The controlled element, which is moved, is either substrate holder 10 (with motors 11, 12, and 13 that move holder 10 in the z direction), or element 14 as shown in figure 1. Also, element 22 in figure 7 could be considered a controlled element that is moved. The profiler 15 determines the shape of the substrate and sends the information to controller 8. The controller 8 then determines correction information and then corrects the target locus (target position) of either 10 or 14 or 22 on basis of this correction information. In claim 1, line 7, "in correspondence with the master" is a very broad expression which could mean almost any type of correspondence. The pattern on the master 2 is transferred to the substrate 1 while moving the controlled element toward the corrected locus (position).

4. Claims 1-3, 11, 12, 14, 17-19, 27, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Yasuda et al. (U. S. Patent No. 6,549,271). Yasuda et al. discloses in figure 1 and column 13 transferring a pattern from a master (mask) 10 onto a substrate (wafer) 20. Mask-deflection correction unit 38 corrects the target locus (position) on the basis of correction information based on the deformed mask detected by mask-deflection detection system 22(see column 14, lines 22-50 and figures 1 and 2A-2C). The controlled element would be the mask itself. Figure 14 (A) also discloses a pattern bearing surface 140B having irregularities.

Claim Rejections - 35 USC § 103

5. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higashiki as applied to claim1 above, and further in view of Hasebe et al. (U. S. Patent No. 6,228,561). Higashiki discloses the invention claimed except for specifically disclosing a coating step and a developing step. Hasebe et al. discloses in figure 2 a coating processor 30 with resist coating apparatus 35 and exposure apparatus 40 and development processor 50 for the purpose of improved efficiency by having all the operations in one location. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide Higashiki with a coating step and a developing step in view of Hasebe et al. for the purpose of improved efficiency by having all the operations of making a semiconductor device in one location.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents on Applicant's PTO 1449 are cited for the same reasons Applicant cited them in his INFORMATION DISCLOSURE STATEMENT. The patent to Hashimoto is cited to show a correcting system for a mask pattern. The patent to Chiba et al. is cited to show a correction optical member 10 in figure 3.

Allowable Subject Matter

7. Claims 16, 31 and 32 are allowed. Claims 6, 7, 10, 13, 22, 23, 26, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan A. Mathews whose telephone number is (703) 308-1706. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (703) 308-2847. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Alan A. Mathews
Alan A. Mathews
Primary Examiner
Art Unit 2851

AAM